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THE BILICKI LAW FIRM, PC 1285 North Main Street JAMESTOWN, NY 14701				NEGRON, ISMAEL
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Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/677,923	Applicant(s) POND ET AL.
	Examiner Ismael Negron	Art Unit 2875

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 11 October 2004.

2a)  This action is FINAL.                    2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 1-80 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) 69-71 is/are allowed.

6)  Claim(s) 1-19, 22, 31-53, 59-68, 72, 73, 79 and 80 is/are rejected.

7)  Claim(s) 20, 21, 23-30, 54-58 and 74-78 is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on 01 October 2003 is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date *see continuation*.  
4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_ .  
5)  Notice of Informal Patent Application (PTO-152)  
6)  Other: \_\_\_\_ .

Continuation of Attachment(s) Item No. 3: IDS filed January 15, 2004; IDS filed March 18, 2004

## **DETAILED ACTION**

### ***Title***

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: **Light Emitting Diode Headlamp.**

### ***Abstract***

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because it repeats information given in the title and uses phrases which can be implied. Correction is required. See MPEP § 608.01(b). The Examiner suggests amending the title to read:

~~The present invention is a~~ A light emitting diode headlamp and headlamp assembly. ~~The light emitting diode headlamp assembly is~~ capable of low beam and high beam functions. ~~The light emitting diode headlamp assembly~~ comprises high-flux light emitting diodes, a reflector subassembly, a first and second light transmissive member, and a heat sink.

### ***Drawings***

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character “81” has been used to designate both “*optical surface*” (paragraph 0054, line 9) and “*optical section*” (paragraph 0055, line 1).

In addition, note reference character “191” has been used to designate both “*optical surface*” (paragraph 0060, line 4) and “*optical section*” (paragraph 0067, line 1).

4. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not

accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 47-49, 61 and 62 are rejected under 35 U.S.C. 102(b) as being anticipated by SERIZAWA et al. (U.S. Pat. 4,733,335).

SERIZAWA et al. discloses a vehicle illumination assembly having :

- **a housing (as recited in Claim 47), Figure 8, reference number 113;**
- **a plurality of high-flux light emitting diodes (as recited in Claim 47), Figure 8, reference number 111;**
- **the housing being formed of a material for transferring heat away from the plurality of light emitting diodes (as recited in Claim 47), column 6, lines 28-30;**
- **an outer light transmissive member (as recited in Claim 47), Figure 8, reference number 124;**

- **the outer member having an inner face (as recited in Claim 47),**  
Figure 8, reference number 150;
- **the outer member having an outer face (as recited in Claim 47),**  
inherent;
- **the outer member being adapted to engage with the housing**  
**(as recited in Claim 47), as seen in Figure 8;**
- **the outer member and the housing defining a three-**  
**dimensional space (as recited in Claim 47), as evidenced by**  
Figure 8;
- **a unitary reflector subassembly (as recited in Claim 47),** Figure  
8, reference number 125;
- **the reflector subassembly being positioned within the space**  
**(as recited in Claim 47), as seen in Figure 8;**
- **the reflector subassembly including an array of parabolic**  
**reflector units (as recited in Claim 47),** Figure 8, reference  
number 151;
- **at least one inner light transmissive member (as recited in**  
**Claim 47),** Figure 8, reference number 127;
- **the inner member being adjacent to the outer member (as**  
**recited in Claim 47), as seen in Figure 8;**
- **at least one alignment mechanism (as recited in Claim 47), as**  
evidenced by Figure 8;

- **the inner member being fixedly secured to the at least one alignment mechanism (as recited in Claim 47), as seen in Figure 8;**
- **the inner member being aligned generally parallel to the outer light transmissive member (as recited in Claim 47), as seen in Figure 8;**
- **the inner member being in front of the array of light emitting diodes (as recited in Claim 47), as seen in Figure 8;**
- **a driver circuit (as recited in Claim 47), Figure 4, reference number 210;**
- **the driver circuit having a current regulation mechanism (as recited in Claim 47), Figure 4, reference number 210;**
- **the outer member defining a lens cover for the housing (as recited in Claim 48), as seen in Figure 8;**
- **the housing being constructed of aluminum (as recited in Claim 49), column 6, lines 28 and 29;**
- **the outer member being hermetically sealed to the housing (as recited in Claim 61), as evidenced by Figure 8; and**
- **the outer member and the housing being generally rectangular (as recited in Claim 62), as evidenced by Figure 9.**

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-18, 22, 31, 34, 35 and 37-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over SERIZAWA et al. (U.S. Pat. 4,733,335) in view of DOUGHTY et al. (U.S. Pat. 5,851,063).

SERIZAWA et al. discloses a vehicle illumination assembly having:

- **a housing (as recited in Claim 1)**, Figure 8, reference number 111;
- **the housing defining an inner surface and an outer surface (as recited in Claim 1)**, inherent;
- **an outer light transmissive member (as recited in Claim 1)**, Figure 8, reference number 124;
- **the outer member being adapted to engage with the housing (as recited in Claim 1)**, as seen in Figure 8;
- **the outer member and the housing defining a three-dimensional space (as recited in Claim 1)**, as evidenced by Figure 8;
- **a plurality of reflector units (as recited in Claim 1)**, Figure 8, reference number 151;

- **a support member (as recited in Claim 1), Figure 8, reference number 152;**
- **the reflector units being positioned within the space (as recited in Claim 1), as seen in Figure 8;**
- **a plurality of high-flux light emitting diodes (as recited in Claim 1), Figure 8, reference number 111;**
- **the light emitting diodes (LED) being arranged at the base of corresponding reflector units (as recited in Claim 1), as seen in Figure 8;**
- **a support member (as recited in Claim 1), Figure 8, reference number 152;**
- **the LED being operatively mounted to the support member (as recited in Claim 1), column 8, lines 50-52;**
- **the light rays emitted by the LED being directed away from the support member (as recited in Claim 1), as seen in Figure 8;**
- **a plurality of inner light transmissive members (as recited in Claim 1), Figure 8, reference number 127;**
- **the inner member being located adjacent to the outer light transmissive member (as recited in Claim 1), as seen in Figure 8;**
- **at least one alignment mechanism (as recited in Claim 1), as evidenced by Figure 4;**

- **each of the plurality of inner light transmissive members being fixedly secured to the least one alignment mechanism (as recited in Claim 1), as evidenced by Figure 4;**
- **each of the plurality of inner light transmissive members corresponding to one of the plurality of light emitting diodes (as recited in Claim 1), column 8, lines 45-49;**
- **a heat dissipating mechanism (as recited in Claim 1), Figure 8, reference number 163;**
- **the outer light transmissive member defining a lens cover (as recited in Claim 2), as seen in Figure 8;**
- **the lens cover having an inner face (as recited in Claim 2), Figure 150, reference number 222;**
- **the lens cover having an outer face (as recited in Claim 2), as seen in Figure 8;**
- **the first portion forming first incident light rays (as recited in Claim 3), inherent;**
- **the plurality of reflector units collimating a first portion of the emitted light rays (as recited in Claim 3), as evidenced by Figure 8;**
- **the first light rays being substantially parallel to a longitudinal axis of the headlamp (as recited in Claim 3), as seen in Figure 8;**

- **the first light rays being directed toward the lens cover (as recited in Claim 3), as seen in Figure 8;**
- **the plurality of inner light transmissive members collimating a second portion of the emitted light rays (as recited in Claim 4), as evidenced by Figure 8;**
- **the second portion of emitted light forming second incident light rays (as recited in Claim 4), inherent;**
- **the second light ray being directed substantially toward the lens cover (as recited in Claim 4), as seen in Figure 8;**
- **the second light rays being substantially parallel to the longitudinal axis (as recited in Claim 4), column 9, lines 17-20;**
- **the plurality of light emitting diodes being arranged in a plurality of rows on the support member to form an array of light emitting diodes (as recited in Claim 5), as seen in Figure 9;**
- **the plurality of reflector units being operatively arranged in a plurality of rows to form a reflector array that corresponds to the array of light emitting diodes (as recited in Claim 6), as evidenced by figures 8 and 9;**
- **each of the reflector units having a parabolic reflector (as recited in Claim 7), Figure 8, reference number 157;**

- **the plurality of reflector units forming a unitary reflector subassembly (as recited in claims 8, 12 and 16), Figure 9, reference number 151;**
- **the array of light emitting diodes including fourteen light emitting diodes (as recited in Claim 14), as evidenced by Figure 9;**
- **the plurality of reflector units forming a reflector array (as recited in Claim 14), as seen in Figure 9;**
- **the reflector array including fourteen reflector units operatively arranged to correspond to the array of light emitting diodes (as recited in Claim 14), as evidenced by Figure 9;**
- **each of the inner members being aligned generally parallel to the outer member (as recited in Claim 18), as seen in Figure 8;**
- **each of the inner members being disposed in front of one of the plurality of light emitting diodes (as recited in Claim 18), as seen in Figure 8;**
- **the outer member including at least one optical surface (as recited in Claim 22), Figure 8, reference number 150;**
- **the at least optical surface being formed on the inner face of the outer member (as recited in Claim 22), as seen in Figure 8;**

- **a driver circuit (as recited in Claim 31), Figure 4, reference number 210;**
- **the driver circuit including a current regulation mechanism (as recited in Claim 31), Figure 4, reference number 210;**
- **the driver circuit being operatively arranged to drive the plurality of LED (as recited in Claim 31), inherent;**
- **the housing functioning as the heat dissipating mechanism (as recited in Claim 34), column 5, lines 20-24;**
- **the housing being constructed of aluminum (as recited in Claim 35), column 6, lines 28 and 29;**
- **the support member being generally planar (as recited in Claim 37), as evidenced by Figure 8;**
- **the support member being an aluminum core circuit board operatively mounted on housing (as recited in Claim 38), column 8, lines 50-52;**
- **the outer member being hermetically sealed to the housing (as recited in Claim 39), as seen in Figure 8; and**
- **the outer member and the housing are generally rectangular (as recited in Claim 40), as evidenced by Figure 9.**

In addition, SERIZAWA et al. discloses the reflector subassembly as being made of a highly reflecting white thermoplastic material, or the reflection surface of the reflector subassembly being coated to increase its reflectivity (column 7, lines 20-24).

SERIZAWA et al. discloses all the limitations of the claims, except:

- the headlamp effectively emanating white light in any given direction (as recited in Claim 1);
- the reflector subassembly being constructed of a metalized thermoplastic material (as recited in claims 9, 13 and 17);
- the LED and corresponding reflectors being arranged in two rows of three (as recited in Claim 10);
- the parabolic reflectors having a six (6) millimeter focal length (as recited in claims 7, 11 and 15);
- the assembly being 4 inches by 6 inches (as recited in Claim 41);
- the assembly being for a quad headlamp assembly (as recited in Claim 41);
- the outer member and housing being generally circular (as recited in Claim 42);
- the assembly being 7 inches round (as recited in Claim 43); and
- the assembly being a combined low/high beam, sealed-beam headlamp for a dual headlamp assembly (as recited in Claim 43).

DOUGHTY et al. discloses an LED lamp for emitting white light ( as recited in Claim 1).

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to use the white light LED lamps (as recited in Claim 1) of

DOUGHTY et al. in the a vehicle illumination assembly to increase the efficacy and color rendering index of such assembly.

Regarding the reflector subassembly being constructed of a metalized thermoplastic material (as recited in claims 9 and 13) instead of the patented white thermoplastic material of SERIZAWA et al., since the specification ( as filed) evidenced that such metalized thermoplastic is an structure equivalent, in the claimed invention, to the patented white thermoplastic of SERIZAWA et al. (see paragraph 0045, lines 4-6 of the specification as filed). Therefore, because these two materials were art-recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute the white material of SERIZAWA et al. for claimed metalized material .

Regarding the LED and corresponding reflectors being arranged in two rows of three (as recited in Claim 10), it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the claimed 2x3 arrangement, since it has been held by the courts that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device, and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device. *In Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984). In this case SERIZAWA et al. discloses a 6x10 arrangement (as seen in Figure 9), but using a different arrangement (e.g. 2x3)

would have flow naturally to one of ordinary skill in the art in response to the needs of a particular application.

Regarding the parabolic reflectors having a six (6) millimeter focal length (as recited in claims 7, 11 and 15), It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to use such specific parabolic reflectors, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2nd 272, 205 USPQ 215 (CCPA 1980). In this case SERIZAWA et al. discloses LED located at the focal point of the parabolic reflector for collimating a portion of the light produced by such LED. The actual focal length of the reflector appears to lack any criticality. In addition, applicant's statements regarding the claimed 6 mm focal length as been merely a preferred embodiment (paragraph 0044, lines 1 and 2), are noted.

Regarding the outer member and housing being 4 inches by 6 inches (as recited in Claim 41), or generally circular (as recited in Claim 42) and 7 inches round (as recited in Claim 43), such shape would have been obvious to one of ordinary skill in the art at the time the invention was made, since it has been held by the courts that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device, and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device. *In Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232

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(1984). In addition, it has been held by the courts that a change in shape or configuration, without any criticality, is nothing more than one of numerous shapes that one of ordinary skill in the art will find obvious to provide based on the suitability for the intended final application. See *In re Dailey*, 149 USPQ 47 (CCPA 1976). In this case, it appears that the disclosed device would perform equally well shaped and dimensioned as disclosed by SERIZAWA et al..

Regarding the assembly being for a quad headlamp assembly (as recited in Claim 41), or a combined low/high beam, sealed-beam headlamp for a dual headlamp assembly (as recited in Claim 43), such limitations were considered as obvious to one of ordinary skill in the art at the time the invention was made, since they are directed to the intended used of the claimed invention without affecting the structural limitations already defined by the claims.

7. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over SERIZAWA et al. (U.S. Pat. 4,733,335) in view of DOUGHTY et al. (U.S. Pat. 5,851,063).

SERIZAWA et al. and DOUGHTY et al. disclose individually, or suggest in combination, all the limitations of the claims (as detailed in Section 6 of the instant Office Action), except each of the plurality of inner members being an aspheric lens.

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to use an aspheric lens as the convex lens of SERIZAWA et al. in order to correct for spherical aberration in the light beam outputted by such

inner members, and deliver a substantially collimate beam to the outer member, as per the teachings of SERIZAWA et al. (columns 4 and 5, lines 65-68 and 1-5, respectively).

8. Claims 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over SERIZAWA et al. (U.S. Pat. 4,733,335) in view of DOUGHTY et al. (U.S. Pat. 5,851,063).

SERIZAWA et al. and DOUGHTY et al. disclose individually, or suggest in combination, all the limitations of the claims (as detailed in Section 6 of the instant Office Action), except the plurality of LED having a minimum luminous flux of approximately 50 lumens (as recited in Claim 32) or 70 lumens (as recited in Claim 33).

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to use a plurality of LED having minimum luminous flux of approximately 50 lumens (as recited in Claim 32) or 70 lumens (as recited in Claim 33), since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2nd 272, 205 USPQ 215 (CCPA 1980). In this case selecting an LED having the claimed minimum luminous flux would have flown naturally to one of ordinary skill in the art based on the requirements of a particular application.

9. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over SERIZAWA et al. (U.S. Pat. 4,733,335) in view of DOUGHTY et al. (U.S. Pat. 5,851,063).

SERIZAWA et al. and DOUGHTY et al. disclose individually, or suggest in combination, all the limitations of the claims (as detailed in Section 6 of the instant Office Action), except the housing being constructed of zinc.

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to fabricate the housing out of zinc instead of the aluminum as disclosed by SERIZAWA et al., since aluminum is an art recognized equivalent of the claimed zinc (see paragraphs 0070 and 0074, lines 5-7 and 3-5, respectively, of the specification as filed). Therefore, because these two materials were art-recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute the white material of SERIZAWA et al. for claimed metalized material.

10. Claims 44-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over SERIZAWA et al. (U.S. Pat. 4,733,335) in view of DOUGHTY et al. (U.S. Pat. 5,851,063).

SERIZAWA et al. and DOUGHTY et al. disclose individually, or suggest in combination, all the limitations of the claims (as detailed in Section 6 of the instant Office Action), except the headlamp functioning as one of two low beam headlamps (as recited in Claim 44), one of two high beam headlamps (as recited in Claim 45) in a quad headlamp assembly, or one of two combined low beam/high beam headlamps in a dual headlamp assembly (as recited in Claim 46), such headlamp assemblies satisfying the minimum and maximum photometric requirements of the SAE Standards J1383.

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to use the illumination assembly of SERIZAWA et al. and DOUGHTY et al. as part of a vehicle headlamp assembly satisfying the minimum and maximum photometric requirements of the SAE Standards J1383 (as recited in claims 44-46), since the cited references disclose individually, or suggest in combination, all the structural limitations of the claimed invention. The illumination assembly of SERIZAWA et al. and DOUGHTY et al. functioning as a low/high beam headlamp would amount to a recitation of the intended use of the patented invention, without resulting in any structural difference between the claimed invention and the structure disclosed, or suggested, by SERIZAWA et al. and DOUGHTY et al., and therefore fails to patentably distinguish the claimed invention from the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). In addition, satisfying the operational and/or regulatory requirements of a particular application would have flown naturally to one of ordinary skill in the art.

11. Claim 50 is rejected under 35 U.S.C. 103(a) as being unpatentable over SERIZAWA et al. (U.S. Pat. 4,733,335).

SERIZAWA et al. discloses a vehicle illumination assembly having:

- **a housing (as recited in Claim 47), Figure 8, reference number 113;**
- **a plurality of high-flux light emitting diodes (as recited in Claim 47), Figure 8, reference number 111;**

- **the housing being formed of a material for transferring heat away from the plurality of light emitting diodes (as recited in Claim 47),** column 6, lines 28-30;
- **an outer light transmissive member (as recited in Claim 47),** Figure 8, reference number 124;
- **the outer member having an inner face (as recited in Claim 47),** Figure 8, reference number 150;
- **the outer member having an outer face (as recited in Claim 47),** inherent;
- **the outer member being adapted to engage with the housing (as recited in Claim 47),** as seen in Figure 8;
- **the outer member and the housing defining a three-dimensional space (as recited in Claim 47),** as evidenced by Figure 8;
- **a unitary reflector subassembly (as recited in Claim 47),** Figure 8, reference number 125;
- **the reflector subassembly being positioned within the space (as recited in Claim 47),** as seen in Figure 8;
- **the reflector subassembly including an array of parabolic reflector units (as recited in Claim 47),** Figure 8, reference number 151;

- **at least one inner light transmissive member (as recited in Claim 47), Figure 8, reference number 127;**
- **the inner member being adjacent to the outer member (as recited in Claim 47), as seen in Figure 8;**
- **at least one alignment mechanism (as recited in Claim 47), as evidenced by Figure 8;**
- **the inner member being fixedly secured to the at least one alignment mechanism (as recited in Claim 47), as seen in Figure 8;**
- **the inner member being aligned generally parallel to the outer light transmissive member (as recited in Claim 47), as seen in Figure 8;**
- **the inner member being in front of the array of light emitting diodes (as recited in Claim 47), as seen in Figure 8;**
- **a driver circuit (as recited in Claim 47), Figure 4, reference number 210; and**
- **the driver circuit having a current regulation mechanism (as recited in Claim 47), Figure 4, reference number 210.**

SERIZAWA et al. discloses all the limitations of the claims, except the housing being constructed of zinc (as recited in Claim 50).

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to fabricate the housing out of zinc (as recited in Claim 50)

instead of the aluminum as disclosed by SERIZAWA et al., since aluminum is an art recognized equivalent of the claimed zinc (see paragraphs 0070 and 0074, lines 5-7 and 3-5, respectively, of the specification as filed). Therefore, because these two materials were art-recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute the white material of SERIZAWA et al. for claimed metalized material.

12. Claim 51 is rejected under 35 U.S.C. 103(a) as being unpatentable over SERIZAWA et al. (U.S. Pat. 4,733,335).

SERIZAWA et al. discloses a vehicle illumination assembly having :

- **a housing (as recited in Claim 47)**, Figure 8, reference number 113;
- **a plurality of high-flux light emitting diodes (as recited in Claim 47)**, Figure 8, reference number 111;
- **the housing being formed of a material for transferring heat away from the plurality of light emitting diodes (as recited in Claim 47)**, column 6, lines 28-30;
- **an outer light transmissive member (as recited in Claim 47)**, Figure 8, reference number 124;
- **the outer member having an inner face (as recited in Claim 47)**, Figure 8, reference number 150;
- **the outer member having an outer face (as recited in Claim 47)**, inherent;

- **the outer member being adapted to engage with the housing (as recited in Claim 47), as seen in Figure 8;**
- **the outer member and the housing defining a three-dimensional space (as recited in Claim 47), as evidenced by Figure 8;**
- **a unitary reflector subassembly (as recited in Claim 47), Figure 8, reference number 125;**
- **the reflector subassembly being positioned within the space (as recited in Claim 47), as seen in Figure 8;**
- **the reflector subassembly including an array of parabolic reflector units (as recited in Claim 47), Figure 8, reference number 151;**
- **at least one inner light transmissive member (as recited in Claim 47), Figure 8, reference number 127;**
- **the inner member being adjacent to the outer member (as recited in Claim 47), as seen in Figure 8;**
- **at least one alignment mechanism (as recited in Claim 47), as evidenced by Figure 8;**
- **the inner member being fixedly secured to the at least one alignment mechanism (as recited in Claim 47), as seen in Figure 8;**

- **the inner member being aligned generally parallel to the outer light transmissive member (as recited in Claim 47), as seen in Figure 8;**
- **the inner member being in front of the array of light emitting diodes (as recited in Claim 47), as seen in Figure 8;**
- **a driver circuit (as recited in Claim 47), Figure 4, reference number 210; and**
- **the driver circuit having a current regulation mechanism (as recited in Claim 47), Figure 4, reference number 210.**

SERIZAWA et al. discloses all the limitations of the claims, except each of the plurality of inner members being an aspheric lens (as recited in Claim 51).

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to use an aspheric lens (as recited in Claim 51) as the convex lens of SERIZAWA et al. in order to correct for spherical aberration in the light beam outputted by such inner members, and deliver a substantially collimate beam to the outer member, as per the teachings of SERIZAWA et al. (columns 4 and 5, lines 65-68 and 1-5, respectively).

13. Claims 52, 53 and 63-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over SERIZAWA et al. (U.S. Pat. 4,733,335).

SERIZAWA et al. discloses a vehicle illumination assembly having :

- **a housing (as recited in Claim 47), Figure 8, reference number 113;**
- **a plurality of high-flux light emitting diodes (as recited in Claim 47), Figure 8, reference number 111;**
- **the housing being formed of a material for transferring heat away from the plurality of light emitting diodes (as recited in Claim 47), column 6, lines 28-30;**
- **an outer light transmissive member (as recited in Claim 47), Figure 8, reference number 124;**
- **the outer member having an inner face (as recited in Claim 47), Figure 8, reference number 150;**
- **the outer member having an outer face (as recited in Claim 47), inherent;**
- **the outer member being adapted to engage with the housing (as recited in Claim 47), as seen in Figure 8;**
- **the outer member and the housing defining a three-dimensional space (as recited in Claim 47), as evidenced by Figure 8;**
- **a unitary reflector subassembly (as recited in Claim 47), Figure 8, reference number 125;**
- **the reflector subassembly being positioned within the space (as recited in Claim 47), as seen in Figure 8;**

- **the reflector subassembly including an array of parabolic reflector units (as recited in Claim 47), Figure 8, reference number 151;**
- **at least one inner light transmissive member (as recited in Claim 47), Figure 8, reference number 127;**
- **the inner member being adjacent to the outer member (as recited in Claim 47), as seen in Figure 8;**
- **at least one alignment mechanism (as recited in Claim 47), as evidenced by Figure 8;**
- **the inner member being fixedly secured to the at least one alignment mechanism (as recited in Claim 47), as seen in Figure 8;**
- **the inner member being aligned generally parallel to the outer light transmissive member (as recited in Claim 47), as seen in Figure 8;**
- **the inner member being in front of the array of light emitting diodes (as recited in Claim 47), as seen in Figure 8;**
- **a driver circuit (as recited in Claim 47), Figure 4, reference number 210; and**
- **the driver circuit having a current regulation mechanism (as recited in Claim 47), Figure 4, reference number 210.**

In addition, SERIZAWA et al. discloses the reflector subassembly as being made of a highly reflecting white thermoplastic material, or the reflection surface of the reflector subassembly being coated to increase its reflectivity (column 7, lines 20-24).

SERIZAWA et al. discloses all the limitations of the claims, except:

- the Led and corresponding reflectors being arranged in two rows of three (as recited in Claim 52);
- reflector subassembly is constructed of a metalized thermoplastic material (as recited in Claim 53);
- the assembly being 4 inches by 6 inches (as recited in Claim 63);
- the assembly being for a quad headlamp assembly (as recited in Claim 63);
- the outer member and housing being generally circular (as recited in Claim 64);
- the assembly being 7 inches round (as recited in Claim 65); and
- the assembly being a combined low/high beam, sealed-beam headlamp for a dual headlamp assembly (as recited in Claim 65).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to arranged the LED and corresponding reflectors in two rows of three (as recited in Claim 52), since it has been held by the courts that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device, and a device having the claimed relative dimensions would not

perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device. *In Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984). In this case SERIZAWA et al. discloses a 6x10 arrangement (as seen in Figure 9), but using a different arrangement (e.g. 2x3) would have flow naturally to one of ordinary skill in the art in response to the needs of a particular application.

Regarding the housing being made of a metalized thermoplastic material, it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to fabricate the housing out of such metalized thermoplastic material (as recited in Claim 53) instead of the patented white thermoplastic material of SERIZAWA et al., since such metalized thermoplastic is equivalent to the patented white thermoplastic of SERIZAWA et al. (see paragraph 0045, lines 4-6 of the specification as filed). Therefore, because these two materials were art-recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute the white material of SERIZAWA et al. for claimed metalized material.

Regarding the outer member and housing being 4 inches by 6 inches (as recited in Claim 63), or generally circular (as recited in Claim 64) and 7 inches round (as recited in Claim 65), such shape would have been obvious to one of ordinary skill in the art at the time the invention was made, since it has been held by the courts that, where the only difference between the prior art and the claims was a recitation of relative

dimensions of the claimed device, and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device. *In Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984). In addition, it has been held by the courts that a change in shape or configuration, without any criticality, is nothing more than one of numerous shapes that one of ordinary skill in the art will find obvious to provide based on the suitability for the intended final application. See *In re Dailey*, 149 USPQ 47 (CCPA 1976). In this case, it appears that the disclosed device would perform equally well shaped and dimensioned as disclosed by SERIZAWA et al..

Regarding the assembly being for a quad headlamp assembly (as recited in Claim 63), or a combined low/high beam, sealed-beam headlamp for a dual headlamp assembly (as recited in Claim 65), such limitations were considered as obvious to one of ordinary skill in the art at the time the invention was made, since they are directed to the intended used of the claimed invention without affecting the structural limitations already defined by the claims.

14. Claims 59 and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over SERIZAWA et al. (U.S. Pat. 4,733,335).

SERIZAWA et al. discloses a vehicle illumination assembly having:

- **a housing (as recited in Claim 47)**, Figure 8, reference number 113;

- **a plurality of high-flux light emitting diodes (as recited in Claim 47),** Figure 8, reference number 111;
- **the housing being formed of a material for transferring heat away from the plurality of light emitting diodes (as recited in Claim 47),** column 6, lines 28-30;
- **an outer light transmissive member (as recited in Claim 47),** Figure 8, reference number 124;
- **the outer member having an inner face (as recited in Claim 47),** Figure 8, reference number 150;
- **the outer member having an outer face (as recited in Claim 47),** inherent;
- **the outer member being adapted to engage with the housing (as recited in Claim 47),** as seen in Figure 8;
- **the outer member and the housing defining a three-dimensional space (as recited in Claim 47),** as evidenced by Figure 8;
- **a unitary reflector subassembly (as recited in Claim 47),** Figure 8, reference number 125;
- **the reflector subassembly being positioned within the space (as recited in Claim 47),** as seen in Figure 8;

- **the reflector subassembly including an array of parabolic reflector units (as recited in Claim 47), Figure 8, reference number 151;**
- **at least one inner light transmissive member (as recited in Claim 47), Figure 8, reference number 127;**
- **the inner member being adjacent to the outer member (as recited in Claim 47), as seen in Figure 8;**
- **at least one alignment mechanism (as recited in Claim 47), as evidenced by Figure 8;**
- **the inner member being fixedly secured to the at least one alignment mechanism (as recited in Claim 47), as seen in Figure 8;**
- **the inner member being aligned generally parallel to the outer light transmissive member (as recited in Claim 47), as seen in Figure 8;**
- **the inner member being in front of the array of light emitting diodes (as recited in Claim 47), as seen in Figure 8;**
- **a driver circuit (as recited in Claim 47), Figure 4, reference number 210; and**
- **the driver circuit having a current regulation mechanism (as recited in Claim 47), Figure 4, reference number 210.**

SERIZAWA et al. discloses all the limitations of the claims, except the plurality of LED having a minimum luminous flux of approximately 50 lumens (as recited in Claim 59) or 70 lumens (as recited in Claim 60).

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to use a plurality of LED having minimum luminous flux of approximately 50 lumens (as recited in Claim 59) or 70 lumens (as recited in Claim 60), since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2nd 272, 205 USPQ 215 (CCPA 1980). In this case selecting an LED having the claimed minimum luminous flux would have flown naturally to one of ordinary skill in the art based on the requirements of a particular application.

15. Claims 66-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over SERIZAWA et al. (U.S. Pat. 4,733,335).

SERIZAWA et al. discloses a vehicle illumination assembly having:

- **a housing (as recited in Claim 47)**, Figure 8, reference number 113;
- **a plurality of high-flux light emitting diodes (as recited in Claim 47)**, Figure 8, reference number 111;
- **the housing being formed of a material for transferring heat away from the plurality of light emitting diodes (as recited in Claim 47)**, column 6, lines 28-30;

- **an outer light transmissive member (as recited in Claim 47),**  
Figure 8, reference number 124;
- **the outer member having an inner face (as recited in Claim 47),**  
Figure 8, reference number 150;
- **the outer member having an outer face (as recited in Claim 47),**  
inherent;
- **the outer member being adapted to engage with the housing**  
**(as recited in Claim 47), as seen in Figure 8;**
- **the outer member and the housing defining a three-**  
**dimensional space (as recited in Claim 47), as evidenced by**  
Figure 8;
- **a unitary reflector subassembly (as recited in Claim 47),** Figure  
8, reference number 125;
- **the reflector subassembly being positioned within the space**  
**(as recited in Claim 47), as seen in Figure 8;**
- **the reflector subassembly including an array of parabolic**  
**reflector units (as recited in Claim 47),** Figure 8, reference  
number 151;
- **at least one inner light transmissive member (as recited in**  
**Claim 47),** Figure 8, reference number 127;
- **the inner member being adjacent to the outer member (as**  
**recited in Claim 47),** as seen in Figure 8;

- **at least one alignment mechanism (as recited in Claim 47), as evidenced by Figure 8;**
- **the inner member being fixedly secured to the at least one alignment mechanism (as recited in Claim 47), as seen in Figure 8;**
- **the inner member being aligned generally parallel to the outer light transmissive member (as recited in Claim 47), as seen in Figure 8;**
- **the inner member being in front of the array of light emitting diodes (as recited in Claim 47), as seen in Figure 8;**
- **a driver circuit (as recited in Claim 47), Figure 4, reference number 210; and**
- **the driver circuit having a current regulation mechanism (as recited in Claim 47), Figure 4, reference number 210.**

SERIZAWA et al. discloses all the limitations of the claims, except the headlamp functioning as one of two low beam headlamps (as recited in Claim 66), one of two high beam headlamps (as recited in Claim 67) in a quad headlamp assembly, or one of two combined low beam/high beam headlamps in a dual headlamp assembly (as recited in Claim 68), such headlamp assemblies satisfying the minimum and maximum photometric requirements of the SAE Standards J1383.

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to use the illumination assembly of SERIZAWA et al. and DOUGHTY et al. as part of a vehicle headlamp assembly satisfying the minimum and maximum photometric requirements of the SAE Standards J1383 (as recited in claims 66-68), since the cited references disclose individually, or suggest in combination, all the structural limitations of the claimed invention. The illumination assembly of SERIZAWA et al. functioning as a low/high beam headlamp would amount to a recitation of the intended use of the patented invention, without resulting in any structural difference between the claimed invention and the structure disclosed by SERIZAWA et al. and therefore fails to patentably distinguish the claimed invention from the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). In addition, satisfying the operational and/or regulatory requirements of a particular application would have flown naturally to one of ordinary skill in the art.

16. Claim 72 is rejected under 35 U.S.C. 103(a) as being unpatentable over SERIZAWA et al. (U.S. Pat. 4,733,335).

SERIZAWA et al. discloses a vehicle illumination assembly having :

- **a housing**, Figure 8, reference number 113;
- **an outer light transmissive member**, Figure 8, reference number 124;
- **the outer member being hermetically sealed with said housing**, as seen in Figure 8;

- **the outer member and the housing defining a three-dimensional space, as evidenced by Figure 8;**
- **a plurality of high-flux light emitting diodes, Figure 8, reference number 111;**
- **a plurality of reflector units, Figure 8, reference number 151;**
- **the reflector units being positioned within said space, as seen in Figure 8;**
- **the reflector units being operatively arranged to correspond to said plurality of light emitting diodes, as seen in Figure 8;**
- **at least one inner light transmissive member, Figure 8, reference number 127;**
- **the inner member being adjacent to said outer Light transmissive member, as seen in Figure 8;**
- **a heat dissipating mechanism, Figure 8, reference number 163;**
- **a driver circuit, Figure 4, reference number 210;**
- **the driver circuit having a current regulation mechanism, Figure 4, reference number 210; and**
- **the driver circuit being circuit operatively arranged to drive said plurality of light emitting diodes, inherent.**

SERIZAWA et al. discloses all the limitations of the claim, except the assembly including two headlamps.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include two lamps in the assembly of SERIZAWA et al., since it has been held that mere duplication of essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8. In this case, SERIZAWA et al. discloses all the structural limitations of a single lamp as claimed, using two or more lamps would have flown naturally to one of ordinary skill in the art as required by the particulars of a specific application.

17. Claims 73 and 79 are rejected under 35 U.S.C. 103(a) as being unpatentable over SERIZAWA et al. (U.S. Pat. 4,733,335).

SERIZAWA et al. all the limitations of the claims (as detailed in Section 16 of the instant Office Action), except the illumination assembly including two low beam headlamps and two high beam headlamps (as recited in Claim 73), or two combined low beam/high beam headlamps (as recited in Claim 79).

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to use the illumination assembly of SERIZAWA et al. as two low beam headlamps and two high beam headlamps (as recited in Claim 73), or two combined low beam/high beam headlamps (as recited in Claim 79), since such limitations were considered directed to the intended used of the claimed invention without affecting the structural limitations already defined by the claims.

In addition, the applicant is once again advised that it has been held that mere duplication of essential working parts of a device involves only routine skill in the art. *St.*

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*Regis Paper Co. v. Bemis Co.*, 193 USPQ 8. In this case, SERIZAWA et al. discloses all the structural limitations of a single lamp as claimed, using two or more lamps would have flown naturally to one of ordinary skill in the art as required by the particulars of a specific application.

18. Claim 80 is rejected under 35 U.S.C. 103(a) as being unpatentable over SERIZAWA et al. (U.S. Pat. 4,733,335).

SERIZAWA et al. all the limitations of the claims (as detailed in Section 16 of the instant Office Action), except the illumination assembly satisfying the minimum and maximum photometric requirements of the SAE Standards J1383 (as recited in Claim 80).

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to have the illumination assembly of SERIZAWA et al. to satisfy the minimum and maximum photometric requirements of the SAE Standards J1383 (as recited in claims 66-68), since the cited references disclose individually, or suggest in combination, all the structural limitations of the claimed invention. The illumination assembly of SERIZAWA et al. functioning as a low/high beam headlamp would amount to a recitation of the intended use of the patented invention, without resulting in any structural difference between the claimed invention and the structure disclosed by SERIZAWA et al. and therefore fails to patentably distinguish the claimed invention from the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). In addition, satisfying the operational and/or

regulatory requirements of a particular application would have flown naturally to one of ordinary skill in the art.

***Relevant Prior Art***

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

**Amans** (U.S. Pat. 3,510,732), **Angerstein et al.** (U.S. Pat. 4,780,752), **Singer et al.** (U.S. Pat. 5,813,752) and **Chen** (U.S. Pat. 5,962,971) disclose a plurality of LED capable of producing white light.

**Kosman et al.** (U.S. Pat. 3,821,590), **Collins et al.** (U.S. Pat. 3,676,668), **Kosman et al.** (U.S. Pat. 3,821,590), **Masami et al.** (U.S. Pat. 4,729,076) and **Roney et al.** (U.S. Pat. 5,528,474) disclose LED illumination devices having heat sinks for removing heat from the LEDs.

**Mouyard et al.** (U.S. Pat. 4,254,453), **Murata** (U.S. Pat. 4,938,665), **Schmid et al.** (U.S. Pat. 5,438,487), **Suzuki et al.** (U.S. Pat. 5,580,156), **Fredericks et al.** (U.S. Pat. 6,431,728) and **Swarco Futurit** (European Pat. App. No. EP-0-905-439-A2) disclose LED illumination devices including a housing having a plurality of reflector units with a plurality of LED located at the base of each reflector unit, an inner lens member, and an outer lens member. The inner lens member is formed by an array of lenses, each lens corresponding to an LED.

***Allowable Subject Matter***

20. Claims 69-71 are allowed.

21. Claims 20, 21, 23-30, 54-58 and 74-78 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

22. The following is a statement of reasons for the indication of allowable subject matter:

Applicant teaches vehicle illumination devices having a housing, a plurality of reflector units including a plurality of LED located at the base of each reflector unit, an inner lens member, and an outer lens member. The inner lens member is formed by an array of lenses, each lens corresponding to an LED. The device includes an alignment mechanism consisting of a plurality of annular extensions integral to an inner face of the outer member, such alignment mechanism being for aligning the inner lens member with the plurality of reflector units (as recited in claims 20, 21 and 69).

In addition, the outer member includes an inner surface including an optical surface, such optical surface including a first optical surface for producing a wide light pattern extending approximately 30° left and right of a vertical axis of the device, a second optical surface for producing a narrow light pattern extending approximately 8° left and right of the vertical axis of the device and approximately 0° to approximately 4° up from a longitudinal axis of the device, and a third optical surface for producing a concentrated point of light located approximately 2° degrees down from said longitudinal

axis and approximately 2° right of said vertical axis (as recited in claims 23-30, 54-58, 70-71 and 74-78).

No prior art was found teaching individually, or suggesting in combination, all of the features of the applicants' invention, specifically the claimed alignment mechanism (as recited in claims 20, 21 and 69) or the claimed optical structure of the outer lens member's inner surface (as recited in claims 23-30, 54-58, 70-71 and 74-78).

### ***Conclusion***

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ismael Negron whose telephone number is (571) 272-2376. The examiner can normally be reached on Monday-Friday from 9:00 A.M. to 6:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra L. O'Shea, can be reached on (571) 272-2378. The facsimile machine number for the Art Group is (703) 872-9306.

24. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications maybe obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, go to <http://pair-direct.uspto.gov>. Should you

have questions on access to Private PAIR system, contact the Electronic Business Center (EBC) toll-free at 866-217-9197.



January 18, 2005



**JOHN ANTHONY WARD  
PRIMARY EXAMINER**